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INTEGRATING CHAMBER CONE LIGHT USING  
LED SOURCES

**Abstract of the Disclosure**

A system to provide radiant energy of selectable spectral characteristic (e.g. a selectable color combination) uses an integrating cavity to combine energy of different wavelengths from different sources. The cavity has a diffusely reflective interior surface and an aperture for allowing emission of combined radiant energy. Sources of radiant energy of different wavelengths, typically different-color LEDs, supply radiant energy into the interior of the integrating cavity. In the examples, the points of entry of the energy into the cavity typically are located so that they are not directly visible through the aperture. The cavity effectively integrates the energy of different wavelengths, so that the combined radiant energy emitted through the aperture includes the radiant energy of the various wavelengths. The apparatus also includes a control circuit coupled to the sources for establishing output intensity of radiant energy of each of the sources. Control of the intensity of emission of the sources sets the amount of each wavelength of energy in the combined output and thus determines a spectral characteristic of the radiant energy output through the aperture.